Claims

1. Display and operating unit for a machine in the tobacco-processing industry, with a visual display unit (10) for the display of a graphic user interface consisting of a plurality of screen displays, and a computer (11) which is designed to generate the graphic user interface by means of a computer program,

whereby essentially all the screen displays have at least the following regions:

an operating region (20) that can be operated by the operator for the display of a plurality of different operating-region displays that can be selected by the operator, with machine- and/or product-related display and operating elements;

a message region (21) for the display of machine- or product-related stop and warning messages,

c h a r a c t e r i z e d i n that the screen displays have at least one further region which includes machine- and/or product-related display and/or operating elements concerning the production mode, display of the further region being independent of the respectively selected operating-region display of the operating region (20).

2. Display and operating unit according to claim 1, characterized in that the at least one further region includes a control region (29) that can be operated by the operator with operating elements (290, 291, ..., 300) which can be operated for control of the machine.

3. Display and operating unit according to claim 2, characterized in that the control region (29) includes two configurations for running machine and for standstill machine.

4. Display and operating unit according to claim 2 or 3, characterized in that the control region (29) has an operating element (300) for automatic starting of the whole machine (12) from a standstill.

5. Display and operating unit according to claim 4, characterized in that the operating element (300) for automatic starting of the whole machine as a function of the fulfilment of conditions necessary for starting the machine has a ready indicator.

6. Display and operating unit according to any of claims 2 to 5, characterized in that the control region (29) has an operating element (295) for adjustment of the machine speed.

7. Display and operating unit according to any of claims 2 to 6, characterized in that the control region (29) has an operating element (294) for automatic empty running of the machine in relation to product material.

8. Display and operating unit according to any of claims 2 to 7, characterized in that the control region (29) has an operating element (298) for switching secondary drives on and off.

9. Display and operating unit according to any of claims 2 to 8, characterized in that operating elements (290, 291, ..., 300) are assigned corresponding status indicating elements (290A, 291A, ..., 300A).

10. Display and operating unit according to any of claims 1 to 9, characterized in that the at least one further region has a production measurement data display region (23) with display elements for the display of production measurement data measured by means of measuring devices in the machine (12).

11. Display and operating unit according to claim 10, characterized in that the production measurement data display region (23) is arranged in the upper third of the screen.

12. Display and operating unit according to claim 10 or 11, characterized in that the production measurement data display region (23) can be configured individually.

13. Display and operating unit according to any of claims 1 to 12, characterized in that the operating region (20), the message region (21) and the or each further region (23, 29) are each in separate regions.

14. Display and operating unit according to any of claims 1 to 13, characterized in that the arrangement of the operating region (20), the message region (21) and the or each further region (23, 29) is invariably predetermined for the operator during ordinary production.

15. Display and operating unit according to any of claims 1 to 14, characterized in that all operating-region displays are assigned to a plurality of groups of operating-region displays.

16. Display and operating unit according to claim 15, characterized in that each group of operating-region displays is assigned a main operating-region display (40; 50; 65; 66).

17. Display and operating unit according to claim 15 or 16, characterized in that the operating-region displays are arranged hierarchically within a group.

18. Display and operating unit according to any of claims 15 to 17, characterized in that for each group a screen display can be stored as current.

19. Display and operating unit according to any of claims 15 to 18, characterized in that the operating region (20) is assigned a group selection region (27) with group selection fields which can be actuated for the selection of one group of operating-region displays, respectively.

20. Display and operating unit according to claim 19, characterized in that a group selection field (271) is assigned a group of operating-region displays (40, 41) essentially concerning the production mode of the machine.

21. Display and operating unit according to claim 19 or 20, characterized in that a group selection field (272) is assigned a group of operating-region displays (50, 60, 61, 63) essentially concerning faults, machine maintenance and/or starting up the machine.

22. Display and operating unit according to any of claims 19 to 21, characterized in that a group selection field (273) is assigned a group of help operating-region displays (65) for the display of an operator's manual in order of subject.

23. Display and operating unit according to any of claims 19 to 22, characterized in that a group selection field (274) is assigned a group of operating-region displays (66, 67, 68, 69) essentially concerning shift management, parameter settings, changing brands, test running and/or machine maintenance.

24. Display and operating unit according to any of claims 1 to 23, characterized in that the message region (21) is assigned a first message region (210) for the display of a first message corresponding to the original reason for stopping in case of stopping of the machine.

25. Display and operating unit according to any of claims 1 to 24, characterized in that essentially every screen display has a line display region (26) with display

elements (260, 261, 262, ...) for machines of the corresponding production line that can be operated.

26. Display and operating unit according to any of claims 1 to 25, characterized in that the operating region (20) is assigned a navigation region (22) with navigation areas (220, 221, 222, ..., 229) which can be actuated for bringing up desired operating-region displays.

27. Display and operating unit according to any of claims 1 to 26, characterized in that the operating region (20) is assigned a navigation region (250) which can be displayed temporarily on request, with navigation fields (251, 252, ..., 311, 312, 321, 323) which can be actuated for bringing up desired operating-region displays.

28. Display and operating unit according to claim 27, characterized in that at least some of the navigation fields of the navigation region (250) can be individually assigned to favoured operating-region displays.

29. Display and operating unit according to any of claims 1 to 28, characterized in that in at least one screen display can be displayed context help selection fields (460, 461, ..., 470, ...) which are assigned to display or operating elements and the actuation of which leads to the display of respectively corresponding context help display elements (480).

30. Display and operating unit according to any of claims 1 to 29, characterized in that each operating-region display is assigned an operating priority for establishing authorisation for access to this operating-region display.

31. Display and operating unit according to claim 30, characterized in that the assignment of operating priorities to the operating-region displays can be configured individually.

32. Display and operating system according to any of claims 1 to 31, characterized in that all machine parameters adjustable by the operator can be displayed in an operating-region display (67).

33. Display and operating system according to claim 32, characterized in that all machine parameters adjustable by the operator are displayed in the form of a common list of contents (670).

34. Display and operating system according to claim 32 or 33, characterized in that the operating-region display (67) includes at least one target selection field (90) with a plurality of selectable parameter targets, the parameters displayed in the operating-region display (67) being determined by the respectively selected parameter target.

35. Display and operating system according to claim 34, characterized in that a target selection field (90) is provided for the selection of parameter targets in connection with different machine regions.

36. Display and operating system according to claim 34 or 35, characterized in that a target selection field (91) is provided for the selection of parameter targets in connection with different types of parameter.

37. Display and operating system according to any of claims 32 to 36, characterized in that the parameters displayed in the operating-region display (67) are arranged in an appropriate order.

38. Display and operating system according to any of claims 1 to 37, characterized in that all actions that can be performed by the operator and which are connected with machine operation can be displayed in one operating-region display.

39. Display and operating system according to any of claims 1 to 38, characterized in that all messages occurring within a past interval of time can be displayed in one operating-region display.

40. Display and operating method for a machine in the tobacco-processing industry, wherein a graphic user interface consisting of a plurality of screen displays is generated and displayed on a visual display unit, wherein in essentially all the screen displays at least the following regions are displayed:

an operating region that can be operated by the operator and in which a plurality of different operating-region displays that can be selected by the operator are displayed with machine- and/or product-related display and operating elements;

a message region that cannot be operated by the operator and in which machine- or product-related stop and warning messages are displayed,

characterized in that the screen displays have at least one further region, wherein in the further region are displayed machine- and/or product-related display and/or operating elements concerning the production mode, the further region being displayed independently of the respectively selected operating-region display of the operating region.